

Flight Projects Directorate / Ground Systems Department FD40		
Quality Plan for the HOSC Project	Document No.: HOSC-PLAN-661	Revision: H
	Date: 10 November 2003	Page B-1 of B-26

## **APPENDIX B. PRODUCT IMPLEMENTATION PLANS**

Flight Projects Directorate / Ground Systems Department FD40		
Quality Plan for the HOSC Project	Document No.: HOSC-PLAN-661	Revision: H
	Date: 10 November 2003	Page B-2 of B-26

## Product Implementation Plan (PIP)

Title: **Mission Systems**

Export POC: Bill Mordan

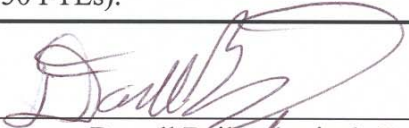
Team/Project Leader: Darrell Bailey

Records Custodian: FD41 MSA

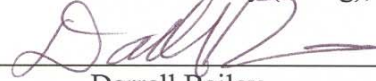
Systems Engineer: Darrell Bailey

<b>CWC/ATP #</b>  <p style="text-align: center;">FD-FB-FR-FI-04 (POIC)</p>	
<b>Reference CWC(s) for Budget, Schedule, and Requirements</b>	
<b>Approach for Accomplishing Requirements:</b> <p>The requirements are for an extensive suite of integrated tools, facilities, and operational capabilities, which will enable operations of payloads on space platforms – principally the International Space Station. The approach is to acquire the tools (EHS and PDSS) and support for development of the facilities/capabilities through a contract (NAS8-44000) with Lockheed Martin. Development and test processes/procedures are defined in the contractor's System Development Plan. Government application of the MPD 1280.1/ISO-9000 standard is as defined in HOSC-PLAN-623, HOSC Quality Plan, as defined herein.</p>	
<b>Specific design/development methodologies and any tailoring:</b> <p>Contractor methodology derived from DOD-STD-2167A.  Tailoring applied to reduce documentation to an adequate minimum.</p>	
<b>Allocation of work:</b>	
<b>Civil Service:</b>	Design, development, inspection, and test surveillance and product assurance/acceptance ( 11 FTEs).
<b>Contractor:</b>	Product design, development, inspection, test, and on-going servicing support (approximately 150 FTEs).

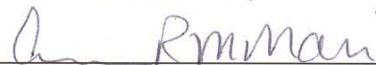
Prepared by: Team/Project Leader

  
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Darrell Bailey (acting), Pat Molloy

Approved by: Group Leader

  
\_\_\_\_\_  
Darrell Bailey

Approved by: Project Manager

  
\_\_\_\_\_  
Ann McNair

The following table specifies the procedures used by civil service personnel for each ISO element and sub-element. Absence of an MS-unique procedure indicates use of the standard procedure.

Flight Projects Directorate / Ground Systems Department FD40		
Quality Plan for the HOSC Project	Document No.: HOSC-PLAN-661	Revision: H
	Date: 10 November 2003	Page B-3 of B-26

Mission Systems (MS) Product Implementation Plan				
#	MMM/HOSC Quality Plan	Standard Procedure	MS-Unique Procedure	MS-Specific Record
7.1.1.1	Management Commitment	Quality Plan (QP) Section 7.1.1	N/A	N/A
7.1.1.2	Quality Policy			
7.1.1.3	Quality Goals, Objectives, and Principles			
7.1.1.4	Organization			
7.1.1.5	Management Review			
7.1.2	Quality System	QP Section 7.1.2	N/A	N/A
7.1.2.4	Continual Improvement	QP Section 7.1.2.4	N/A	See 7.1.6.1
7.1.3	Customer-Related Processes	QP Section 7.1.3 HOSC-PLAN-623 Project Plan (PP) Section 9.1	N/A	N/A
7.1.3.4	Customer Communication	QP Section 7.1.3.4	N/A	
7.1.3.5	Customer Satisfaction	QP Section 7.1.3.5	N/A	
7.1.4	Data Management, Including Document and Data Control	MSFC-PLAN-3046 Data Management Plan (DMP)		N/A
7.1.4.2	Document and Data Approval and Issue			
7.1.4.3	Document and Data Changes			
7.1.5	Process Control	QP Section 7.1.5		N/A
7.1.5.1	Infrastructure	QP Section 7.1.5.1	HOSC-EHS-076B Process Definition Document	

Flight Projects Directorate / Ground Systems Department FD40		
Quality Plan for the HOSC Project	Document No.: HOSC-PLAN-661	Revision: H
	Date: 10 November 2003	Page B-4 of B-26

Mission Systems (MS) Product Implementation Plan				
#	MMM/HOSC Quality Plan	Standard Procedure	MS-Unique Procedure	MS-Specific Record
			HOSC-SYS-085 HOSC Configuration Mgt Procedures Manual	
7.1.5.2	Control of Production and Service Provision	QP Section 7.1.5.2 FPD-OI-FD40.10 – HPR CMP	HOSC-EHS-076B Process Definition Document  HOSC-SYS-085 HOSC Configuration Mgt Procedures Manual	N/A HPR ECR
7.1.6	Corrective and Preventive Action	QP Section 7.1.6		N/A
7.1.6.1	Corrective Action	QP Section 7.1.6.1		HPR Continuous Improvement
7.1.6.2	Preventive Action	QP Section 7.1.6.2		N/A
7.1.6.3	ALERTs	QP Section 7.1.6.3 MWI 1280.5		
7.1.7	Control of Quality Records	QP Section 7.1.7		N/A
7.1.8.1	Internal Quality Audits	QP Section 7.1.8.1		N/A
7.1.8.2	Customer Audits	N/A 7.1.8.2		N/A
7.1.8.3	Audits of Contractors	N/A 7.1.8.3		N/A
7.1.8.4	Third-Party Audits	QP Section 7.1.8.4		N/A
7.1.9	Servicing	CMP		N/A

Flight Projects Directorate / Ground Systems Department FD40		
Quality Plan for the HOSC Project	Document No.: HOSC-PLAN-661	Revision: H
	Date: 10 November 2003	Page B-5 of B-26

Mission Systems (MS) Product Implementation Plan				
#	MMM/HOSC Quality Plan	Standard Procedure	MS-Unique Procedure	MS-Specific Record
7.1.9.1	Regulatory and Legislative Requirements	MPG 2190.1 – Export Control		N/A
7.1.9.2	Industry Codes and Practices	N/A		N/A
7.1.9.3	Service Level Agreements	Per CWC		N/A
7.1.9.4	Training of Customer Personnel	N/A		N/A
7.1.9.5	Technical Support	CMP FPD-OI-FD40.7 – Remote Servicing Plan		HPR ECR
7.3.1	Competence, Awareness, and Training	QP Section 7.3.1		Training/Certification Record
7.4.1	Control of Customer-Supplied Product	QP Section 7.4.1	UMS CM Plan (SW from outside sources)	N/A
7.5.1	Purchasing (General)	QP Section 7.5.1 FPD-OI-FD40.12 – Task Directives	N/A	N/A
7.5.2	Assessment of Contractors	QP Section 7.5.2	FPD-OI-FD40.13 – UMS Evaluation FPD-OI-FD40.14 – ISSC Evaluation	N/A
7.5.3	Purchasing Data	FPD-OI-FD40.11 – GSD Purchase Planning	N/A	N/A
7.5.4	Verification of Purchased Product	QP Sections 7.5.4 and 7.8.3		N/A
7.6.1	Handling, Storage, Packaging, Preservation, and Delivery (HSPPD)	QP Section 7.6.1		N/A

Flight Projects Directorate / Ground Systems Department FD40		
Quality Plan for the HOSC Project	Document No.: HOSC-PLAN-661	Revision: H
	Date: 10 November 2003	Page B-6 of B-26

Mission Systems (MS) Product Implementation Plan				
#	MMM/HOSC Quality Plan	Standard Procedure	MS-Unique Procedure	MS-Specific Record
7.6.1.1	Products in Development	QP Section 7.6.1.1 References	HOSC-SYS-085 HOSC CPM	None
7.6.1.2	Products in Operations/Utilization	N/A		N/A
7.8.1	Design and Development	MSFC-PLAN-2929 CM Plan (CMP)		N/A
7.8.1.1	General	CMP		CWC
7.8.1.2	Design and Development Planning	CMP		N/A
7.8.1.3	Organizational and Technical Interfaces	PP Section 4		N/A
7.8.1.4	Design and Development Inputs	CMP MWI 1280.5 (ALERTs)		N/A
7.8.1.5	Design and Development Outputs	CMP		N/A
7.8.1.6	Design and Development Review	CMP		Review Item Discrepancy (UMS)
7.8.1.7	Design and Development Verification	CMP		Review Item Discrepancy (UMS)
7.8.1.8	Design and Development Validation	CMP		HOSC Problem Report (on-line)
7.8.1.10	Control of Design and Development Changes	CMP		Engineering Change Package (Tom Wright)
7.8.2	Product Identification and Traceability	CMP	HOSC-SYS-085 HOSC CM	Code Handover Checklist

Flight Projects Directorate / Ground Systems Department FD40		
Quality Plan for the HOSC Project	Document No.: HOSC-PLAN-661	Revision: H
	Date: 10 November 2003	Page B-7 of B-26

Mission Systems (MS) Product Implementation Plan				
#	MMM/HOSC Quality Plan	Standard Procedure	MS-Unique Procedure	MS-Specific Record
			Procedures Manual	
7.8.3	Monitoring and Measurement of Product	QP Section 7.8.3		N/A
7.8.3.1	Plans and Procedures	QP Section 7.8.3.1	HOSC-SYS-121, HVCP	N/A
7.8.3.2	In-Process Inspection and Testing	QP Section 7.8.3.2		Reference Design Control Records
7.8.3.3	Receiving Inspection and Testing	CMP – Verification and Audits FPD-OI-FD40.10 – HPR CMP – Deviations and Waivers		HOSC Problem Report Deviation/Waiver
7.8.3.4	Final Inspection and Testing	CMP – Verification and Audits		HOSC Problem Report Readiness Review Issues List
7.8.3.5	Inspection and Test Records	QP Section 7.8.3.5		See above (7.8.3.2-7.8.3.4)
7.8.4	Control of Monitoring and Measuring Devices	QP Section 7.8.4		HOSC Problem Report
7.8.5	Inspection and Test Status	QP Section 7.8.5		Release Notes/Report HPR Log Readiness Review Issues List
7.8.6	Control of Nonconforming Product	QP Section 7.8.6 CMP – Deviations and Waivers MWI 1280.5 (ALERTs)		Release Notes/Defects Report Deviation/Waiver
7.8.7	Statistical Techniques	QP Section 7.8.7		N/A

Flight Projects Directorate / Ground Systems Department FD40		
Quality Plan for the HOSC Project	Document No.: HOSC-PLAN-661	Revision: H
	Date: 10 November 2003	Page B-8 of B-26

Mission Systems (MS) Product Implementation Plan				
#	MMM/HOSC Quality Plan	Standard Procedure	MS-Unique Procedure	MS-Specific Record
	Standards	CMP Document Trees		N/A



Flight Projects Directorate / Ground Systems Department FD40		
Quality Plan for the HOSC Project	Document No.: HOSC-PLAN-661	Revision: H
	Date: 10 November 2003	Page B-9 of B-26

## Product Implementation Plan (PIP)

Title: **Telescience Resource Kit (TReK)**                      Export POC:                      Bill Mordan  
 Team/Project Leader:    Michelle Schneider                      Records Custodian:    Michelle Schneider  
 Systems Engineer:           Michelle Schneider

**CWC/ATP #            FD-FB-FR-FI-04 (POIC)**

### Reference CWC(s) for Budget, Schedule, and Requirements

#### Approach for Accomplishing Requirements:

The requirement is for a low-cost PC-based system that provides capabilities to generate displays/command forms, generate telemetry/command databases, process telemetry and uplink commands. The system is for usage by ISS researchers located across the United States. The approach is to design and develop the system (Telescience Resource Kit (TReK)) as an in-house project, using support contractors for independent verification, validation, and test support. Contractor support is via contract NAS8-44000 with Lockheed Martin/Morgan Research. Government application of the MPD 1280.1/ISO-9000 standard is as defined in HOSC-PLAN-623, Quality Plan, as tailored herein.

#### Specific design/development methodologies and any tailoring:

Design/development methodology is as defined in TREK-001, TReK Product Plan.  
Methodology is tailored to reduce documentation to an adequate minimum.


#### Allocation of work:

**Civil Service:**            Design, documentation, production, servicing and quality assurance  
    ( 8 FTEs) and IV&V ( 3 FTEs).  
**Contractor:**            Verification, validation, and test support – UMS (1 FTE).

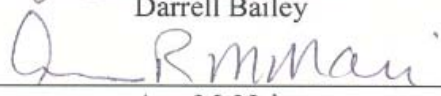
Prepared by:    Team/Project Leader

  
 \_\_\_\_\_  
 Michelle Schneider

Approved by:    Group Leader

  
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 Darrell Bailey

Approved by:    Project Manager

  
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 Ann McNair

The following table specifies the procedures used by civil service personnel for each ISO element and sub-element. Absence of a TReK-unique procedure indicates use of the standard procedure.

Flight Projects Directorate / Ground Systems Department FD40		
Quality Plan for the HOSC Project	Document No.: HOSC-PLAN-661	Revision: H
	Date: 10 November 2003	Page B-10 of B-26

Telescience Resource Kit (TReK) Product Implementation Plan				
#	MMM/HOSC Quality Plan	Standard Procedure	TReK-Unique Procedure	TReK-Specific Record
7.1.1.1	Management Commitment	Quality Plan (QP) Section 7.1.1	N/A	N/A
7.1.1.2	Quality Policy			
7.1.1.3	Quality Goals, Objectives, and Principles			
7.1.1.4	Organization			
7.1.1.5	Management Review			
7.1.2	Quality System	QP Section 7.1.2	N/A	N/A
7.1.2.4	Continual Improvement	QP Section 7.1.2.4	N/A	See 7.1.6.1
7.1.3	Customer-Related Processes	QP Section 7.1.3	N/A	N/A
		Project Plan (PP) Section 9.1	N/A	N/A
7.1.3.4	Customer Communication	QP Section 7.1.3.4	N/A	Continuous Improvement
7.1.3.5	Customer Satisfaction	QP Section 7.1.3.5	N/A	
7.1.4	Data Management, Including Document and Data Control	QP Section 7.1.4 MSFC-PLAN-3046 Data Management Plan (DMP)	TReK Product Documentation	N/A
7.1.4.2	Document and Data Approval and Issue			
7.1.4.3	Document and Data Changes			
7.1.5	Process Control	QP Section 7.1.5	N/A	N/A
7.1.5.1	Infrastructure	QP Section 7.1.5.1	TReK Product Plan	
7.1.5.2	Control of Production and Service Provision	QP Section 7.1.5.2	TReK Product Plan	N/A
7.1.6	Corrective and Preventive	QP Section 7.1.6	N/A	N/A

Flight Projects Directorate / Ground Systems Department FD40		
Quality Plan for the HOSC Project	Document No.: HOSC-PLAN-661	Revision: H
	Date: 10 November 2003	Page B-11 of B-26

Telescience Resource Kit (TReK) Product Implementation Plan				
#	MMM/HOSC Quality Plan	Standard Procedure	TReK-Unique Procedure	TReK-Specific Record
	Action			
7.1.6.1	Corrective Action	QP Section 7.1.6.1	N/A	TReK Problem Report Database Current Activities Schedule Continuous Improvement
7.1.6.2	Preventive Action	QP Section 7.1.6.2	N/A	TPR or Current Activities Schedule
7.1.6.3	ALERTs	QP Section 7.1.6.3 MWI 1280.5		
7.1.7	Control of Quality Records	QP Section 7.1.7	N/A	N/A
7.1.8.1	Internal Quality Audits	QP Section 7.1.8.1	N/A	N/A
7.1.8.2	Customer Audits	N/A	N/A	N/A
7.1.8.3	Audits of Contractors	N/A	N/A	N/A
7.1.8.4	Third-Party Audits	QP Section 7.1.8.4	N/A	N/A
7.1.9	Servicing	QP Section 7.1.9 CMP FPD-OI-FD40.7 – Remote Servicing Plan	N/A	N/A
7.1.9.1	Regulatory and Legislative Requirements	MPG 2190.1 – Export Control	N/A	N/A
7.1.9.2	Industry Codes and Practices	N/A	N/A	N/A
7.1.9.3	Service Level Agreements	N/A	N/A	N/A
7.1.9.4	Training of Customer Personnel	N/A	TReK Product Plan	N/A
7.1.9.5	Technical Support	CMP	N/A	N/A

Flight Projects Directorate / Ground Systems Department FD40		
Quality Plan for the HOSC Project	Document No.: HOSC-PLAN-661	Revision: H
	Date: 10 November 2003	Page B-12 of B-26

Telescience Resource Kit (TReK) Product Implementation Plan				
#	MMM/HOSC Quality Plan	Standard Procedure	TReK-Unique Procedure	TReK-Specific Record
		FPD-OI-FD40.7 – Remote Servicing Plan		
7.3.1	Competence, Awareness, and Training	QP Section 7.3.1	N/A	Training/Certification Record
7.4.1	Control of Customer-Supplied Product	N/A	N/A	N/A
7.5.1	Purchasing (General)	QP Section 7.5.1 FPD-OI-FD40.12 – Task Directives	N/A	N/A
7.5.1.4	Verification of Purchased Product		N/A	N/A
7.5.2	Assessment of Contractors	QP Section 7.5.2	FPD-OI-FD40.13 – UMS Contractor Evaluation	N/A
7.5.3	Purchasing Data	FPD-OI-FD40.11 – GSD Purchase Planning	N/A	N/A
7.5.4	Verification of Purchased Product	QP Sections 7.5.4 and 7.8.3	TReK Product Plan	N/A
7.6.1	Handling, Storage, Packaging, Preservation, and Delivery (HSPPD)	QP Section 7.6.1	N/A	N/A
7.6.1.1	Products in Development	QP Section 7.6.1.1 References	TReK Software Backup Plan	None
7.6.1.2	Products in Operations/Utilization	QP Section 7.6.1.2 References		None
7.8.1	Design and Development	QP Section 7.8.1 MSFC-PLAN-2929 (CM Plan = CMP)	TReK Product Plan	N/A
7.8.1.1	General	CMP	MSFC-RQMT-2629	CWC

Flight Projects Directorate / Ground Systems Department FD40		
Quality Plan for the HOSC Project	Document No.: HOSC-PLAN-661	Revision: H
	Date: 10 November 2003	Page B-13 of B-26

Telescope Resource Kit (TReK) Product Implementation Plan				
#	MMM/HOSC Quality Plan	Standard Procedure	TReK-Unique Procedure	TReK-Specific Record
7.8.1.2	Design and Development Planning	CMP	TReK Product Plan	N/A
7.8.1.3	Organizational and Technical Interfaces	PP Section 4		N/A
7.8.1.4	Design and Development Inputs	CMP MWI 1280.5 (ALERTs)		N/A
7.8.1.5	Design and Development Outputs	CMP		N/A
7.8.1.6	Design and Development Review	CMP		Customer Input Database Current Activities Schedule
7.8.1.7	Design and Development Verification	CMP		TPR Database
7.8.1.8	Design and Development Validation	CMP		TReK Problem Report
7.8.1.10	Design and Development Changes	CMP	TReK Product Plan	Current Activities Schedule
7.8.2	Product Identification and Traceability	QP Section 7.8.2	TReK CM Plan	Install Scripts and Logs
7.8.3	Monitoring and Measurement of Product	QP Section 7.8.3	N/A	N/A
7.8.3.1	Plans and Procedures	QP Section 7.8.3.1	TReK Test Plan TReK Year 2000 Test Plan Validation/Test Plan	N/A

Flight Projects Directorate / Ground Systems Department FD40		
Quality Plan for the HOSC Project	Document No.: HOSC-PLAN-661	Revision: H
	Date: 10 November 2003	Page B-14 of B-26

Telescience Resource Kit (TReK) Product Implementation Plan				
#	MMM/HOSC Quality Plan	Standard Procedure	TReK-Unique Procedure	TReK-Specific Record
			Release Checklist	
7.8.3.2	In-Process Inspection and Testing	QP Section 7.8.3.2	TReK Product Plan	N/A
7.8.3.3	Receiving Inspection and Testing	CMP – Verification and Audits FPD-OI-FD40.10 – HPR CMP – Deviations and Waivers	TReK Product Plan	TReK Problem Report Database TReK Release Notes
7.8.3.4	Final Inspection and Testing	CMP – Verification and Audits	TreK Test Plan	TReK Problem Report Database
7.8.3.5	Inspection and Test Records	QP Section 7.8.3.5	Validation/Test Plan	Test Database
7.8.4	Control of Monitoring and Measuring Devices	QP Section 7.8.4	TReK Product Plan	Test Database
7.8.5	Inspection and Test Status	QP Section 7.8.5	TReK Product Plan	Test Database
7.8.6	Control of Nonconforming Product	QP Section 7.8.6 CMP – Deviations and Waivers MWI 1280.5 (ALERTs)	TReK Product Plan	TReK Problem Report Database
7.8.7	Statistical Techniques	N/A	N/A	N/A
	Standards	CMP Document Trees	TReK Product Stds	N/A

Flight Projects Directorate / Ground Systems Department FD40		
Quality Plan for the HOSC Project	Document No.: HOSC-PLAN-661	Revision: H
	Date: 10 November 2003	Page B-15 of B-26

## Product Implementation Plan (PIP)

Title: **Payload Planning System (PPS)**

Export POC: Bill Mordan

Team/Project Leader: Angela Marsh

Records Custodian: Dawn Walton

Systems Engineer: George LaCoe

**CWC/ATP #** FD-FB-FR-FG-04 (PPS)

### Reference CWC(s) for Budget, Schedule, and Requirements

#### Approach for Accomplishing Requirements:

The requirement is for an automated software tool to be used by payload planning personnel to produce increment specific planning and execution support products. The approach is to develop the tools as a collaborative effort with a contractor, Lockheed Martin, via contract NAS8-44000. This tool also utilizes planning tools from JSC as appropriate. Government application of the MPD 1280.1/ISO-9000 standard is as defined in HOSC-PLAN-623, Quality Plan, as tailored herein.

#### Specific design/development methodologies and any tailoring:

Methodology based on DOD-STD-2167A

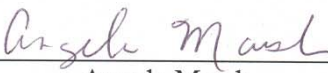
Tailoring to reduce documentation to an adequate minimum.

#### Allocation of work:

**Civil Service:** Design, development, inspection, test, and on-going servicing support – conduct plus surveillance/quality assurance ( 16 FTEs)

**Contractor:** Design, development, inspection, test, and on-going servicing support. (Approximately 13 FTEs)

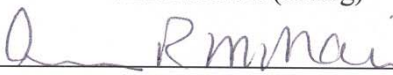
Prepared by: Team/Project Leader

  
Angela Marsh

Approved by: Group Leader

Ann McNair (acting)

Approved by: Project Manager

  
Ann McNair

The following table specifies the procedures used by civil service personnel for each ISO element and sub-element. In-house tasks generally use standard procedures as effective.

Flight Projects Directorate / Ground Systems Department FD40		
Quality Plan for the HOSC Project	Document No.: HOSC-PLAN-661	Revision: H
	Date: 10 November 2003	Page B-16 of B-26

Payload Planning System (PPS) Product Implementation Plan				
#	MMM/HOSC Quality Plan	Standard Procedure	PPS-Unique Procedure	PPS-Specific Record
7.1.1.1	Management Commitment	Quality Plan (QP) Section 7.1.1	N/A	N/A
7.1.1.2	Quality Policy			
7.1.1.3	Quality Goals, Objectives, and Principles			
7.1.1.4	Organization			
7.1.1.5	Management Review			
7.1.2	Quality System	QP Section 7.1.2	N/A	N/A
7.1.2.4	Continual Improvement	QP Section 7.1.2.4	N/A	See 7.1.6.1
7.1.3	Customer-Related Processes	QP Section 7.1.3 HOSC-PLAN-623 Project Plan (PP) Section 9.1	N/A	N/A
7.1.3.4	Customer Communication	QP Section 7.1.3.4	N/A	
7.1.3.5	Customer Satisfaction	QP Section 7.1.3.5	N/A	
7.1.4	Data Management, Including Document and Data Control	MSFC-PLAN-3046 Data Management Plan (DMP)		N/A
7.1.4.2	Document and Data Approval and Issue			
7.1.4.3	Document and Data Changes			
7.1.5	Process Control	QP Section 7.1.5		N/A
7.1.5.1	Infrastructure	QP Section 7.1.5.1	HOSC-EHS-076B Process Definition Document	N/A



Flight Projects Directorate / Ground Systems Department FD40		
Quality Plan for the HOSC Project	Document No.: HOSC-PLAN-661	Revision: H
	Date: 10 November 2003	Page B-17 of B-26

Payload Planning System (PPS) Product Implementation Plan				
#	MMM/HOSC Quality Plan	Standard Procedure	PPS-Unique Procedure	PPS-Specific Record
			HOSC-SYS-085 CMPM	
7.1.5.2	Control of Production and Service Provision	QP Section 7.1.5.2 FPD-OI-FD40.10 – HPR CMP	N/A HOSC-EHS-076B PDD HOSC-SYS-085 CMPM	HPR ECR
7.1.6	Corrective and Preventive Action	QP Section 7.1.6	N/A	N/A
7.1.6.1	Corrective Action	QP Section 7.1.6.1	N/A	HPR Continuous Improvement
7.1.6.2	Preventive Action	QP Section 7.1.6.2	N/A	Risk Identification and Analysis Form
7.1.6.3	ALERTs	QP Section 7.1.6.3 MWI 1280.5		
7.1.7	Control of Quality Records	QP Section 7.1.7		N/A
7.1.8.1	Internal Quality Audits	QP Section 7.1.8.1		N/A
7.1.8.2	Customer Audits	QP Section 7.1.8.2	N/A	N/A
7.1.8.3	Audits of Contractors	QP Section 7.1.8.3		N/A
7.1.8.4	Third-Party Audits	QP Section 7.1.8.4		N/A
7.1.9	Servicing	CMP		N/A
7.1.9.1	Regulatory and Legislative Requirements	MPG 2190.1 – Export Control		N/A

Flight Projects Directorate / Ground Systems Department FD40		
Quality Plan for the HOSC Project	Document No.: HOSC-PLAN-661	Revision: H
	Date: 10 November 2003	Page B-18 of B-26

Payload Planning System (PPS) Product Implementation Plan				
#	MMM/HOSC Quality Plan	Standard Procedure	PPS-Unique Procedure	PPS-Specific Record
7.1.9.2	Industry Codes and Practices	N/A		N/A
7.1.9.3	Service Level Agreements	SSP 50304 – POIC Capabilities	Per CWC	N/A
7.1.9.4	Training of Customer Personnel	QP Section 7.1.9.4	N/A	
7.1.9.5	Technical Support	CMP	N/A	HPR ECR
7.3.1	Competence, Awareness, and Training	QP Section 7.3.1	N/A	Training/Certification Record
7.4.1	Control of Customer-Supplied Product	QP Section 7.4.1	HOSC-SYS-085 CMPM	HPR (only if defective)
7.5.1	Purchasing (General)	QP Section 7.5.1 FPD-OI-FD40.12 – Task Directives	N/A	N/A
7.5.2	Assessment of Contractors	QP Section 7.5.2	FPD-OI-FD40.13	
7.5.3	Purchasing Data	FPD-OI-FD40.11 – GSD Purchase Planning	N/A	N/A
7.5.4	Verification of Purchased Product	QP Sections 7.5.4 and 7.8.3		
7.6.1	Handling, Storage, Packaging, Preservation, and Delivery (HSPPD)	QP Section 7.6.1	N/A	N/A
7.6.1.1	Products in Development	QP Section 7.6.1.1 References	HOSC-SYS-085 CMPM	N/A
7.6.1.2	Products in Operations/Utilization	N/A		N/A

Flight Projects Directorate / Ground Systems Department FD40		
Quality Plan for the HOSC Project	Document No.: HOSC-PLAN-661	Revision: H
	Date: 10 November 2003	Page B-19 of B-26

Payload Planning System (PPS) Product Implementation Plan				
#	MMM/HOSC Quality Plan	Standard Procedure	PPS-Unique Procedure	PPS-Specific Record
7.8.1	Design and Development	MSFC-PLAN-2929 CM Plan (CMP)		N/A
7.8.1.1	General	CMP		CWC
7.8.1.2	Design and Development Planning	CMP		N/A
7.8.1.3	Organizational and Technical Interfaces	PP Section 4		N/A
7.8.1.4	Design and Development Inputs	CMP MWI 1280.5 (ALERTs)		N/A
7.8.1.5	Design and Development Outputs	CMP		N/A
7.8.1.6	Design and Development Review	CMP		Review Item Discrepancy (UMS)
7.8.1.7	Design and Development Verification	CMP		Review Item Discrepancy (UMS)
7.8.1.8	Design and Development Validation	CMP		HOSC Problem Report
7.8.1.10	Design and Development Changes	CMP		Engineering Change Package
7.8.2	Product Identification and Traceability	CMP		Build Definition Document Build Release Notes
7.8.3	Monitoring and Measurement of Product	QP Section 7.8.3	N/A	N/A

Flight Projects Directorate / Ground Systems Department FD40		
Quality Plan for the HOSC Project	Document No.: HOSC-PLAN-661	Revision: H
	Date: 10 November 2003	Page B-20 of B-26

Payload Planning System (PPS) Product Implementation Plan				
#	MMM/HOSC Quality Plan	Standard Procedure	PPS-Unique Procedure	PPS-Specific Record
7.8.3.1	Plans and Procedures	QP Section 7.8.3.1	HOSC-SYS-121 HVCP	N/A
7.8.3.2	In-Process Inspection and Testing	QP Section 7.8.3.2		RIDs
7.8.3.3	Receiving Inspection and Testing	CMP – Verification and Audits FPD-OI-FD40.10 – HPR CMP – Deviations and Waivers		HOSC Problem Report Deviation Waiver Build Release Notes
7.8.3.4	Final Inspection and Testing	CMP – Verification and Audits		HOSC Problem Report
7.8.3.5	Inspection and Test Records	QP Section 7.8.3.5	N/A	IV&V Test Report
7.8.4	Control of Monitoring and Measuring Devices	QP Section 7.8.4	N/A	N/A
7.8.5	Inspection and Test Status	QP Section 7.8.5		SW Test Report HPR Build Release Notes
7.8.6	Control of Nonconforming Product	QP Section 7.8.6 CMP – Deviations and Waivers MWI 1280.5 (ALERTs)		HPR Deviation/Waiver
7.8.7	Statistical Techniques	QP Section 7.8.7	N/A	N/A

Flight Projects Directorate / Ground Systems Department FD40		
Quality Plan for the HOSC Project	Document No.: HOSC-PLAN-661	Revision: H
	Date: 10 November 2003	Page B-21 of B-26

## Product Implementation Plan (PIP)

Title: **Mission Systems Operations (MSO)**

Export POC: Bill Mordan

Team/Project Leader: Nathaniel Bocclair

Records Custodian: Lisa Watson

<b>CWC/ATP #</b>	MP-R1-RV-RU-04 (Shuttle)	CWC FD43-34 (POIC)
	SD-SM-MK-40-04 (TSC)	
<b>Reference CWC(s) for Budget, Schedule, and Requirements</b>		
<b>Approach for Accomplishing Requirements:</b> The requirements are for operational support for the Payload Operations Integration Center, United States Operations Center, International Space Station Engineering Support Room, Shuttle Engineering Support Room, Shuttle Terrestrial Operations Support Room, Shuttle Conference Work Area, and Shuttle Action Center. The approach is to provide this support as a collaborative effort with a contractor, Lockheed Martin, via contract NAS8-44000. Government application of the MPD 1280.1/ISO-9000 standard is defined in HOSC-PLAN-623, Quality Plan, as defined herein.		
<b>Specific design/development methodologies and any tailoring:</b> N/A		
<b>Allocation of work:</b>		
<b>Civil Service:</b>	Overall planning, direction, surveillance/inspection, customer management interface and contractor product assurance/acceptance ( 10 FTEs )	
<b>Contractor:</b>	Planning, requirements, and servicing (O&M) (approximately 89 FTEs)	

Prepared by: Team/Project Leader

*Nathaniel Bocclair*  
*Lisa Watson*

Lisa Watson

Approved by: Group Leader

*Nathaniel Bocclair*

Nathaniel Bocclair

Approved by: Project Manager

*Ann McNair*

Ann McNair

The following table specifies the procedures used by civil service personnel for each ISO element and sub-element. Absence of a MSO-unique procedure indicates use of the standard procedure.

Flight Projects Directorate / Ground Systems Department FD40		
Quality Plan for the HOSC Project	Document No.: HOSC-PLAN-661	Revision: H
	Date: 10 November 2003	Page B-22 of B-26

Mission Systems Operations (MSO) Product Implementation Plan				
#	MMM/HOSC Quality Plan	Standard Procedure	MSO-Unique Procedure	MSO-Specific Record
7.1.1.1	Management Commitment	Quality Plan (QP) Section 7.1.1	N/A	Survey Compilation Metrics
7.1.1.2	Quality Policy			
7.1.1.3	Quality Goals, Objectives, and Principles			
7.1.1.4	Organization			
7.1.1.5	Management Review			
7.1.2	Quality System	QP Section 7.1.2	N/A	N/A
7.1.2.4	Continual Improvement	QP Section 7.1.2.4	N/A	See 7.1.6.1
7.1.3	Customer-Related Processes	QP Section 7.1.3 Project Plan (PP) Section 9.1	N/A	N/A
7.1.3.4	Customer Communication	QP Section 7.1.3.4	N/A	HOSC User Survey
7.1.3.5	Customer Satisfaction	QP Section 7.1.3.5	N/A	
7.1.4	Data Management, Including Document and Data Control	MSFC-PLAN-3046 Data Management Plan (DMP)	N/A	N/A
7.1.4.2	Document and Data Approval and Issue			
7.1.4.3	Document and Data Changes			
7.1.5	Process Control	QP Section 7.1.5	N/A	N/A
7.1.5.1	Infrastructure	N/A	N/A	N/A
7.1.5.2	Control of Production and Service Provision	QP Section 7.1.5.2 HOSC-HUH-233 – HOSC User Handbook HOSC-PROC-180 – HOSC Standard Operating Procedures	FPD-OI-FD43.1 – Ground Systems Operations	IST Procedures Certification

Flight Projects Directorate / Ground Systems Department FD40		
Quality Plan for the HOSC Project	Document No.: HOSC-PLAN-661	Revision: H
	Date: 10 November 2003	Page B-23 of B-26

Mission Systems Operations (MSO) Product Implementation Plan				
#	MMM/HOSC Quality Plan	Standard Procedure	MSO-Unique Procedure	MSO-Specific Record
		MSFC-PLAN-2929 – CM Plan HOSC-PLAN-209 – IST Training Plan		Training Records (kept by HTT)
7.1.6	Corrective and Preventive Action	QP Section 7.1.6	N/A	N/A
7.1.6.1	Corrective Action	QP Section 7.1.6.1	N/A	HOSC User Survey Continuous Improvement
7.1.6.2	Preventive Action	QP Section 7.1.6.2	N/A	N/A
7.1.6.3	ALERTs	QP Section 7.1.6.3 MWI 1280.5		
7.1.7	Control of Quality Records	QP Section 7.1.7	N/A	N/A
7.1.8.1	Internal Quality Audits	QP Section 7.1.8.1	N/A	N/A
7.1.8.2	Customer Audits	N/A	N/A	N/A
7.1.8.3	Audits of Contractors	N/A	N/A	N/A
7.1.8.4	Third-Party Audits	QP Section 7.1.8.4	N/A	N/A
7.1.9	Servicing	QP Section 7.1.9	N/A	N/A
7.1.9.1	Regulatory and Legislative Requirements	MPG 2190.1 – Export Control	N/A	N/A
7.1.9.2	Industry Codes and Practices	N/A	N/A	N/A
7.1.9.3	Service Level Agreements	SSP 50304 – POIC Capabilities	N/A	N/A
7.1.9.4	Training of Customer Personnel	HOSC-PLAN-209 – IST Training Plan	N/A	Training Records (kept by HTT)
7.1.9.5	Technical Support	CMP	N/A	N/A

Flight Projects Directorate / Ground Systems Department FD40		
Quality Plan for the HOSC Project	Document No.: HOSC-PLAN-661	Revision: H
	Date: 10 November 2003	Page B-24 of B-26

Mission Systems Operations (MSO) Product Implementation Plan				
#	MMM/HOSC Quality Plan	Standard Procedure	MSO-Unique Procedure	MSO-Specific Record
		FPD-OI-FD40.7 – Remote Servicing Plan		
7.3.1	Competence, Awareness, and Training	QP Section 7.3.1 FPD-OI-FD43.1 – Ground Systems Operations HOSC-PLAN-209 – IST Training Plan	N/A	Training/Certification Records IST Training/Certification
7.4.1	Control of Customer-Supplied Product	HOSC-HUH-233 – HOSC User Handbook	N/A	N/A
7.5.1	Purchasing (General)	QP Section 7.5.1 FPD-OI-FD40.12 – Task Directives	N/A	N/A
7.5.2	Assessment of Contractors	QP Section 7.5.2	FPD-OI-FD40.13 – UMS Evaluation	N/A
7.5.3	Purchasing Data	QP Section 7.5.3 FPD-OI-FD40.11 – GSD Purchase Planning	N/A	N/A
7.5.4	Verification of Purchased Product	QP Sections 7.5.4 and 7.8.3 CMP	N/A	N/A
7.6.1	Handling, Storage, Packaging, Preservation, and Delivery (HSPPD)	QP Section 7.6.1	N/A	N/A
7.6.1.1	Products in Development	N/A	N/A	N/A
7.6.1.2	Products in Operations/Utilization	QP Section 7.6.1.2 References	N/A	N/A
7.8.1	Design and Development	N/A	N/A	N/A
7.8.1.1	General	N/A	N/A	CWC



Flight Projects Directorate / Ground Systems Department FD40		
Quality Plan for the HOSC Project	Document No.: HOSC-PLAN-661	Revision: H
	Date: 10 November 2003	Page B-25 of B-26

Mission Systems Operations (MSO) Product Implementation Plan				
#	MMM/HOSC Quality Plan	Standard Procedure	MSO-Unique Procedure	MSO-Specific Record
7.8.1.2	Design and Development Planning	N/A	N/A	N/A
7.8.1.3	Organizational and Technical Interfaces	N/A	N/A	N/A
7.8.1.4	Design and Development Inputs	N/A MWI 1280.5 (ALERTs)	N/A	N/A
7.8.1.5	Design and Development Outputs	N/A	N/A	N/A
7.8.1.6	Design and Development Review	N/A	N/A	N/A
7.8.1.7	Design and Development Verification	N/A	N/A	N/A
7.8.1.8	Design and Development Validation	N/A	N/A	N/A
7.8.1.10	Design and Development Changes	CMP for Level III	FPD-OI-FD43.2 HOSC Configuration Request	N/A
7.8.2	Product Identification and Traceability	CMP	FPD-OI-FD43.2 HCR	MSFC-PLAN-904
7.8.3	Monitoring and Measurement of Product	QP Section 7.8.3	N/A	N/A
7.8.3.1	Plans and Procedures	QP Section 7.8.3.1 CMP	N/A	N/A

Flight Projects Directorate / Ground Systems Department FD40		
Quality Plan for the HOSC Project	Document No.: HOSC-PLAN-661	Revision: H
	Date: 10 November 2003	Page B-26 of B-26

Mission Systems Operations (MSO) Product Implementation Plan				
#	MMM/HOSC Quality Plan	Standard Procedure	MSO-Unique Procedure	MSO-Specific Record
7.8.3.2	In-Process Inspection and Testing	N/A	N/A	N/A
7.8.3.3	Receiving Inspection and Testing	N/A	N/A	N/A
7.8.3.4	Final Inspection and Testing	CMP – Verification and Audits FPD-OI-FD40.4 – Flight Certification for Ground Systems	N/A	Certification of Flight Readiness HOSC Readiness Review
7.8.3.5	Inspection and Test Records	QP Section 7.8.3.5	N/A	See 7.8.3.4 above
7.8.4	Control of Monitoring and Measuring Devices	QP Section 7.8.4	N/A	Maintenance Equipment Calibration Records, kept by MSFC Cal Lab, not FD43
7.8.5	Inspection and Test Status	QP Section 7.8.5	N/A	N/A
7.8.6	Control of Nonconforming Product	QP Section 7.8.6 CMP – Deviations and Waivers MWI 1280.5 (ALERTs)	FPD-OI-FD43.1 – Ground System Operations	
7.8.7	Statistical Techniques	FPD-OI-FD43.1 – Ground Systems Operations	N/A	Management Metrics Package